Backup, Disaster Recovery and Business Continuity

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Introduction

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Datto is an award winning provider of on- and off-site Backup and Disaster Recovery solutions.

Formed in 2007 and launched flagship SIRIS product in 2011
Why Backup?

20% of all companies will suffer fire, theft, flood or storm damage, power failures or a hardware/software disaster.

(Source: Aveco)
Of those companies without a business continuity plan:

43% will never re-open

80% will fail within 13 months

(Source: Aveco)
Why Don’t SMB’s Have A BDR Plan?

- Lack Resources
- Lack Skills/Qualified Staff
- Data Protection Is Not a Priority
- Never Occurred To Them
- Do Not View Computer Systems As Critical
Tape Backup – the obvious choice?

- Tape drives has dominated the backup space since the early 1950s
- Tape drives continue to be installed as the sole backup solution for IT systems despite the following widely recognised issues:
  - Reliability
  - Manual Operation
  - Manual Testing
An Ideal Alternative

An ideal alternative to tape backup would have the following advantages:

- Automated backups to include off-site protection
- Near-zero administration
- A single solution combining backup and business continuity
- Ability to vastly increase RPO (Recovery Point Objective)
- Ability to vastly increase RTO (Recovery Time Objective)
- Automated testing of backup and business continuity functions
Addressing the Issues of Existing Backup Solutions:

(1) Inverse Chain Technology
(2) Disk Level Snapshotting
(3) Straight to VMDK
(4) Screenshot Backup Verification
(5) Instant Local Virtualisation
(6) Off-Site Replication (Public & Private Cloud)
(7) Instant Cloud Virtualisation
ZFS – “the last word in filesystems”

Features:

- Combined File System and Volume Manager
- 128-bit File System
- End to End Data Integrity
- Copy-on-Write
- Snapshots
- Clones
Inverse Chain Technology
Inverse Chain Technology:

No Backup Chain

Latest Backup is the “live dataset”

Disk snapshots leverage the Copy-on-Write capabilities of ZFS

File Recovery leverages ZFS snapshot capabilities

Instant Virtualisation leverages ZFS snapshot and clone capabilities
Disk Snapshot
Disk Snapshot

Strategic Partnership with StorageCraft to develop ShadowSnap Agent

Block level agent that records the sector changes on the disk

Our HIR (Hardware Independent Restore) process then analyses the disk image, injects the appropriate drivers, registry entries, etc and ensures the image is bootable
Straight to VMDK
Straight to VMDK

ShadowSnap → .vmdk

Open format Disk image developed by VMware and widely supported
Screenshot Backup Verification
Off-Site Replication
(Public & Private Cloud Options)
Offsite Backup Interval

Choose an offsite backup schedule and a priority. Priority 1 agents will backup the most often. Consider lowering the priority on less sensitive agents.

Perform an offsite backup every: 4 Hours
Set a priority level for this agent: 1

Off-Site Sync Scheduling

The schedule is typically used to throttle bandwidth use during business hours. Unless scheduled, the device will sync at the default transmit limit set below.

Currently the backup schedule has no events

Add new scheduled speed

Start:
- Monday
- 9 AM

End:
- Monday
- 5 PM

Speed: Backup at 100 KBps

Creating many scheduled speeds may reduce your overall backup performance.

Off-Site Sync Speed Limit

Setting the transmit speed limit controls how fast this device synchronizes its data off-site. The recommended speed is 50 to 75 percent of the available upstream bandwidth. A speed of at least 100 Kilobytes per second is highly recommended for all devices of this type. The higher the default limit is set, the faster a more up to date sync can be reached. The speed test displays 50% of the current available upstream bandwidth, this is done so the bandwidth does not go over the max and cause a slow down.

Default Transmit Limit (Kilobytes per second): 100
Calculate Available Upstream Bandwidth (Displays 50% of available upstream bandwidth)

Average daily / weekly data change per agent: Show
Instant Cloud Virtualisation
### Protected Machines

<table>
<thead>
<tr>
<th>Hostname</th>
<th>OS</th>
<th>Last successful backup</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTL03</td>
<td>Windows 2003Server</td>
<td>Tue, Apr 3, 1:02 PM</td>
</tr>
<tr>
<td>PTL02</td>
<td>Windows 2003Server SP1</td>
<td>Tue, Apr 3, 1:03 PM</td>
</tr>
<tr>
<td>WILL_TECH</td>
<td>Windows 7 SP1</td>
<td>Tue, Apr 3, 1:01 PM</td>
</tr>
<tr>
<td>SLAMS_LAPTOP</td>
<td>Windows 7 SP1</td>
<td>Wed, Mar 7, 4:47 PM</td>
</tr>
</tbody>
</table>

### Choose a snapshot to launch

- Tue, Mar 20, 6:02 PM
- Tue, Mar 20, 5:02 PM
- Tue, Mar 20, 4:02 PM
- Tue, Mar 20, 3:03 PM
- Tue, Mar 20, 2:01 PM
- Tue, Mar 20, 1:01 PM
- Tue, Mar 20, 12:01 PM
- Tue, Mar 20, 11:01 AM
- Tue, Mar 20, 10:01 AM

**Schedule a New Task**

- 2ndNicCheck
  - Checks the state of a device's second nic (eth1 or rge1)
Result:

RPO (Recovery Point Objective) – 5 minutes to 1 hour

RTO (Recovery Time Objective) – virtualise immediately

Automated backup, off-site protection and testing

Leverage the cloud for virtualisation following a fire, flood, etc

Optimised restore options to both virtual and physical servers
Questions and Discussions

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